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<110> Feder, John N.
Mintier, Gabe
Kinney, Gene G
Ramanathan, Chandra S

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Thr Val Glu Val Leu Lys Ala Ile Gln Lys Ala Lys Glu Val Lys Ser
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Lys Leu Ser Asn Pro Glu Lys Lys Gly Gly Glu Asp Ser Arg Leu Ser
465 470 475 480

Ala Ala Pro Cys Ile Arg Pro Ser Ser Ser Pro Pro Thr Val Ala Pro

485

490

495

Ala Ser Ala Ser Leu Pro Gln Pro Ile Leu Ser Asn Gln Gly Ile Met
 500 505 510

Phe Val Gln Glu Glu Ala Leu Ala Ser Ser Leu Ser Ser Thr Asp Ser
 515 520 525

Leu Thr Pro Glu His Gln Pro Ile Ala Gln Gly Cys Ser Asp Ser Leu
 530 535 540

Glu Ser Ile Pro Ala Gly Gln Ala Ala Ser Asp Asp Leu Arg Asp Val
 545 550 555 560

Pro Gly Ala Val Gly Gly Ala Ser Pro Glu His Ala Glu Pro Glu Val
 565 570 575

Gln Val Val Pro Gly Ser Gly Gln Ile Ile Phe Leu Pro Phe Thr Cys
 580 585 590

Ile Gly Tyr Thr Ala Thr Asn Gln Asp Phe Ile Gln Arg Leu Ser Thr
 595 600 605

Leu Ile Arg Gln Ala Ile Glu Arg Gln Leu Pro Ala Trp Ile Glu Ala
 610 615 620

Ala Asn Gln Arg Glu Glu Gly Gln Gly Glu Gln Gly Glu Glu Glu Asp
 625 630 635 640

Glu Glu Glu Glu Glu Glu Asp Val Ala Glu Asn Arg Tyr Phe Glu
 645 650 655

Met Gly Pro Pro Asp Val Glu Glu Glu Gly Gly Gln Gly Glu
 660 665 670

Glu-Glu-Glu-Glu-Glu-Glu-Asp-Glu-Glu-Ala-Glu-Glu-Glu-Arg-Leu
 675 680 685

Ala Leu Glu Trp Ala Leu Gly Ala Asp Glu Asp Phe Leu Leu Glu His
 690 695 700

Ile Arg Ile Leu Lys Val Leu Trp Cys Phe Leu Ile His Val Gln Gly
 705 710 715 720

Ser Ile Arg Gln Phe Ala Ala Cys Leu Val Leu Thr Asp Phe Gly Ile
 725 730 735

Ala Val Phe Glu Ile Pro His Gln Glu Ser Arg Gly Ser Ser Gln His
 740 745 750

Ile Leu Ser Ser Leu Arg Phe Val Phe Cys Phe Pro His Gly Asp Leu
 755 760 765

Thr Glu Phe Gly Phe Leu Met Pro Glu Leu Cys Leu Val Leu Lys Val
 770 775 780

Arg His Ser Glu Asn Thr Leu Phe Ile Ile Ser Asp Ala Ala Asn Leu

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785 790 795 800
His Glu Phe His Ala Asp Leu Arg Ser Cys Phe Ala Pro Gln His Met
 805 810 815
Ala Met Leu Cys Ser Pro Ile Leu Tyr Gly Ser His Thr Ser Leu Gln
 820 825 830
Glu Phe Leu Arg Gln Leu Leu Thr Phe Tyr Lys Val Ala Gly Gly Cys
 835 840 845
Gln Glu Arg Ser Gln Gly Cys Phe Pro Val Tyr Leu Val Tyr Ser Asp
 850 855 860
Lys Arg Met Val Gln Thr Ala Ala Gly Asp Tyr Ser Gly Asn Ile Glu
 865 870 875 880
Trp Ala Ser Cys Thr Leu Cys Ser Ala Val Arg Arg Ser Cys Cys Ala
 885 890 895
Pro Ser Glu Ala Val Lys Ser Ala Ala Ile Pro Tyr Trp Leu Leu Leu
 900 905 910
Thr Pro Gln His Leu Asn Val Ile Lys Ala Asp Phe Asn Pro Met Pro
 915 920 925
Asn Arg Gly Thr His Asn Cys Arg Asn Arg Asn Ser Phe Lys Leu Ser
 930 935 940
Arg Val Pro Leu Ser Thr Val Leu Leu Asp Pro Thr Arg Ser Cys Thr
 945 950 955 960
Gln Pro Arg Gly Ala Phe Ala Asp Gly His Val Leu Glu Leu Leu Val
 965 970 975
---Gly-Tyr-Arg-Phe-Val-Thr-Ala-Ile-Phe-Val-Leu-Pro-His-Glu-Lys-Phe---
 980 985 990
His Phe Leu Arg Val Tyr Asn Gln Leu Arg Ala Ser Leu Gln Asp Leu
 995 1000 1005
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Cont
Lys Thr Val Val Ile Ala Lys Thr Pro Gly Thr Gly Gly Ser Pro Gln
 1010 1015 1020
Gly Ser Phe Ala Asp Gly Gln Pro Ala Glu Arg Arg Ala Ser Asn Asp
 1025 1030 1035 1040
Gln Arg Pro Gln Glu Val Pro Ala Glu Ala Leu Ala Pro Ala Pro Val
 1045 1050 1055
Glu Val Pro Ala Pro Ala Pro Ala Ala Ser Ala Ser Gly Pro Ala
 1060 1065 1070
Lys Thr Pro Ala Pro Ala Glu Ala Ser Thr Ser Ala Leu Val Pro Glu
 1075 1080 1085
Glu Thr Pro Val Glu Ala Pro Ala Pro Pro Pro Ala Glu Ala Pro Ala

1090 1095 1100
Gln Tyr Pro Ser Glu His Leu Ile Gln Ala Thr Ser Glu Glu Asn Gln
1105 1110 1115 1120
Ile Pro Ser His Leu Pro Ala Cys Pro Ser Leu Arg His Val Ala Ser
1125 1130 1135
Leu Arg Gly Ser Ala Ile Ile Glu Leu Phe His Ser Ser Ile Ala Glu
1140 1145 1150
Val Glu Asn Glu Glu Leu Arg His Leu Met Trp Ser Ser Val Val Phe
1155 1160 1165
Tyr Gln Thr Pro Gly Leu Glu Val Thr Ala Cys Val Leu Leu Ser Thr
1170 1175 1180
Lys Ala Val Tyr Phe Val Leu His Asp Gly Leu Arg Arg Tyr Phe Ser
1185 1190 1195 1200
Glu Pro Leu Gln Asp Phe Trp His Gln Lys Asn Thr Asp Tyr Asn Asn
1205 1210 1215
Ser Pro Phe His Ile Ser Gln Cys Phe Val Leu Lys Leu Ser Asp Leu
1220 1225 1230
Gln Ser Val Asn Val Gly Leu Phe Asp Gln His Phe Arg Leu Thr Gly
1235 1240 1245
Ser Thr Pro Met Gln Val Val Thr Cys Leu Thr Arg Asp Ser Tyr Leu
1250 1255 1260
Thr His Cys Phe Leu Gln His Leu Met Val Val Leu Ser Ser Leu Glu
1265 1270 1275 1280
Arg Thr Pro Ser Pro Glu Pro Val Asp Lys Asp Phe Tyr Ser Glu Phe
1285 1290 1295
Gly Asn Lys Thr Thr Gly Lys Met Glu Asn Tyr Glu Leu Ile His Ser
1300 1305 1310
Ser Arg Val Lys Phe Thr Tyr Pro Ser Glu Glu Ile Gly Asp Leu
1315 1320 1325
Thr Phe Thr Val Ala Gln Lys Met Ala Glu Pro Glu Lys Ala Pro Ala
1330 1335 1340
Leu Ser Ile Leu Leu Tyr Val Gln Ala Phe Gln Val Gly Met Pro Pro
1345 1350 1355 1360
Pro Gly Cys Cys Arg Gly Pro Leu Arg Pro Lys Thr Leu Leu Thr
1365 1370 1375
Ser Ser Glu Ile Phe Leu Leu Asp Glu Asp Cys Val His Tyr Pro Leu
1380 1385 1390
Pro Glu Phe Ala Lys Glu Pro Pro Gln Arg Asp Arg Tyr Arg Leu Asp

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Cont

1395 1400 1405

Asp Gly Arg Arg Val Arg Asp Leu Asp Arg Val Leu Met Gly Tyr Gln
1410 1415 1420

Thr Tyr Pro Gln Ala Leu Thr Leu Val Phe Asp Asp Val Gln Gly His
1425 1430 1435 1440

Asp Leu Met Gly Ser Val Thr Leu Asp His Phe Gly Glu Val Pro Gly
1445 1450 1455

Gly Pro Ala Arg Ala Ser Gln Gly Arg Glu Val Gln Trp Gln Val Phe
1460 1465 1470

Val Pro Ser Ala Glu Ser Arg Glu Lys Leu Ile Ser Leu Leu Ala Arg
1475 1480 1485

Gln Trp Glu Ala Leu Cys Gly Arg Glu Leu Pro Val Glu Leu Thr Gly
1490 1495 1500

<210> 8
<211> 100
<212> DNA
<213> Homo sapiens

<220>
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nucleotides 1644 to 1743 of Incyte clone 2499870
DATABASE ACCESSION NUMBER: Database: Incyte,
Accession number: 2499870

<400> 8
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gctggaggcc tctgttccaa aagacagaat ctccctgctgt 100

<210> 9
<211> 100
<212> DNA
<213> Homo sapiens

<220>
<223> Other Information: The nucleotide sequence is
nucleotides 1794 to 1893 of Incyte clone 2499870
DATABASE ACCESSION NUMBER: Database: Incyte,
Accession number: 2499870

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aaacagggag agcagtc 100
ggctccttct ccgttgcca
gccctgtctg ccaccctctt ggcattgtg accacattga

<210> 10

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<212> DNA
<213> Homo sapiens

<220>
<223> OTHER INFORMATION: The nucleotide sequence is
nucleotides 2444 to 2546 of Incyte clone 2499870
DATABASE ACCESSION NUMBER: Database: Incyte,
Accession number: 2499870

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acctgcctcg tatccctgtt gctgactccg tccaccctgt tcc 103

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<211> 1289
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<213> Drosophila melanogaster

<220>
<223> DATABASE ACCESSION NUMBER: Database: Genbank,
Accession: AAF52305

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Gly Asp Lys Ile Leu Ser Ser Glu Phe Thr Leu Thr Leu Ser Gly Ser
20 25 30

Leu Leu Arg Ala Leu Asn Asp Ser Phe Thr Leu Ile Ala Asp Thr Glu
35 40 45

Ile Gly Thr Gly Ala Gly Tyr Leu Gln Pro Gln Ser Phe Gln Val Val
50 55 60

Lys Pro Ile Asn Ala Lys Ser Ser Val Phe Pro Asp Leu Gln Leu Val
65 70 75 80

His Asp Phe Val Gln Lys Thr Thr Leu Leu Lys Leu Thr Tyr Phe Pro
85 90 95

Ser Glu His Tyr Phe Glu Gly Ala Ile Asp Ile Ala Lys Phe Arg Ala
100 105 110

Leu Arg Arg Leu Glu Val Asn Lys Ile Asn Ile Gly Gln Val Val Gly
115 120 125

Ile Gln Pro Leu Arg Gly Gln Leu Gln His Leu Ile Cys Val Lys Ser
130 135 140

Leu Thr Ser Val Asp Asp Ile Ile Thr Arg Cys Gly Gly Asp Asn Ser
145 150 155 160

Asn Gly Phe Val Trp Asn Glu Leu Lys Thr Ala Asp Phe Ser Tyr Asn
165 170 175

Ser Leu Arg Ser Val Asp Thr Ala Leu Glu Phe Ala Gln His Leu Gln
180 185 190

His Leu Asn Leu Arg His Asn Lys Leu Thr Ser Val Ala Ala Ile Lys
195 200 205

Trp Leu Pro His Leu Lys Thr Leu Asp Leu Ser Tyr Asn Cys Leu Thr
210 215 220

His Leu Pro Gln Phe His Met Glu Ala Cys Lys Arg Leu Gln Leu Leu
225 230 235 240

Asn Ile Ser Asn Asn Tyr Val Glu Glu Leu Leu Asp Val Ala Lys Leu
245 250 255

Asp Ala Leu Tyr Asn Leu Asp Leu Ser Asp Asn Cys Leu Leu Glu His
260 265 270

Ser Gln Leu Leu Pro Leu Ser Ala Leu Met Ser Leu Ile Val Leu Asn
275 280 285

Leu Gln Gly Asn Pro Leu Ala Cys Asn Pro Lys His Arg Gln Ala Thr
290 295 300

Ala Gln Tyr Leu His Lys Asn Ser Ala Thr Val Lys Phe Val Leu Asp
305 310 315 320

Phe Glu Pro Leu Thr Lys Ala Glu Lys Ala Leu Thr Gly Ser Gln Lys
325 330 335

Trp Arg Tyr Ile Ser Gly Leu Ser His Arg Ser Pro Arg Ser Thr Ser
340 345 350

Met Ser Ile Asn Ser Ser Ala Ser Ile Asn Thr Ser Asp Gly Ser
355 360 365

Gln Phe Ser Ser Phe Gly Ser Gln Arg Ser Val Ser Ile Arg Gly Lys
370 375 380

Asn Tyr Thr Leu Glu Asp Asn Gln Ser Met Asp Thr Ser Gln Ser Ser
385 390 395 400

Lys Arg Ile Ser Ser Cys Lys Ile Arg Thr Val Asp Ile Glu Glu Ser
405 410 415

Ser Glu Ile Asn Thr Asp Ala Ala Ser Val Ser Thr Pro Asn Pro Arg
420 425 430

Ser Glu Tyr Glu Glu Glu Pro Asp Asn Ser His Leu Glu Thr Lys Lys
435 440 445

Lys Ile Glu Thr Leu Arg Leu Thr Tyr Gly Asn Glu Trp Leu Lys Ser
450 455 460

Gly Asn Ala Glu Leu Met Leu Gly Ile Glu Thr Pro Gln Pro Thr Glu
465 470 475 480

Arg Glu Arg Asn Glu Ser Arg Gln Leu Phe Asn Glu Tyr Leu Gly Glu
485 490 495

Leu Ser Gly Phe Thr Glu Ala Lys Asn Asp Ser Glu His His Asn Ile
500 505 510

Ser Ser Thr Pro Thr Asn Asn Val Leu Leu Ala Ser Thr Phe Asp Ala
515 520 525

Thr Ile Thr Pro Ile Lys Ser Glu Ala Asn Asp Thr Ser Gly Gln Thr
530 535 540

Leu Tyr Glu Thr Cys Thr Glu Gly Glu Glu Thr Asn Tyr Glu Ser Phe
545 550 555 560

Gly Asn Asn Thr Thr Glu Leu Ser Thr Glu Glu Arg Pro Pro Asp Arg
565 570 575

His Glu Glu Leu Leu Arg Leu Tyr Ala Ser Ser Asn Ala Gln Asp
580 585 590

Glu Asp Pro Val Ser Asp Ala Glu Ser Asp Glu Glu Thr Tyr Ile Val
595 600 605

Tyr His Glu Gln Lys Pro Ser Glu Val Leu Phe Leu Thr Ile Ser Ser
610 615 620

Asn Phe Ile Arg Glu Lys Asp Thr Leu Thr Glu Arg Thr Lys Ala Lys
625 630 635 640

Trp Ser Leu Lys Ile Leu Glu Ser Cys Glu Arg Val Arg Ser Asn Thr
645 650 655

Leu Arg Ile Asn Phe Asp Thr Met Arg Lys Asp Lys Gln Glu Arg Ile
660 665 670

Tyr Cys Val Glu Asn Thr Leu Cys Gln Glu Leu Glu Lys Lys Leu Arg
675 680 685

Asp Ile Leu Ser Gln Arg Asp Leu Thr Glu Met Asn Ile Ser Ile Tyr
690 695 700

Arg Cys Val Asn Cys Leu Thr Gln Phe Thr Ile Glu Gln Lys Ser Lys
705 710 715 720

Arg Tyr Lys Ala Lys Glu Leu Arg Cys Pro Asp Cys Arg Ser Val Tyr
725 730 735

Val Ala Glu Val Thr Glu Leu Ser Ser Ser Leu Ser Lys Pro Ser Gly
740 745 750

Glu Val Ala Ala Glu Pro Lys Leu Ser Pro Ala Met Ile Val Glu Glu
755 760 765

Ser Pro Val Glu Glu Leu Ala Ala Ala Ile Asn Lys Glu Glu Ser Asn
770 775 780

Ser Ile Gly Lys Ser Leu Ala Ser Phe Leu Phe Tyr Phe Asp Glu Ser
 785 790 795 800
 Ser Phe Asp Ser Asn Gln Ser Val Val Gly Ser Ser Asn Thr Asp Arg
 805 810 815
 Asp Met Glu Phe Arg Ala Asn Glu Ser Asp Val Asp Ile Ile Ser Asn
 820 825 830
 Pro Ser Gln Ser Ser Ile Glu Val Leu Asp Pro Asn Tyr Val Gln Ser
 835 840 845
 Ala Ser Arg Lys Thr Ser Glu Glu Arg Arg Ile Ser Gln Leu Pro His
 850 855 860
 Leu Glu Thr Ile His Asp Glu Val Ala Lys Ser Lys Ser Phe Ile Glu
 865 870 875 880
 Arg Glu Phe Gly Gln Leu Leu Ala Glu Gln Ala Gln Pro Thr Thr Pro
 885 890 895
 Ser Thr Ala Ala Pro Leu Ala Pro Ala Lys Ser Ala Val Pro Ser His
 900 905 910
 Val Pro Leu Thr Glu Ser Ser Ser Gly Ser Val Thr Asp Ser Ile
 915 920 925
 Cys Thr Thr Tyr Glu Gln Gln Ala Thr Asp Ala Pro Gln Asn Leu Gln
 930 935 940
 Asn Ser Leu Leu Thr Glu Ser Ser Asn Ser Gln Val Ser Gly Ser Asp
 945 950 955 960
 Ala Glu Ser Asn Ser Arg Leu Lys Ser Ala Glu Asp Ala Ser Leu Leu
 965 970 975
 Pro Phe Ala Ser Val Phe Gln Ser Thr Asn Leu Leu Met Ser Ser Ser
 980 985 990
 Lys Lys Leu Ile Glu Ser Glu Ala Thr Val Phe Gly Thr Gln Pro Tyr
 995 1000 1005
 Lys Phe Asn Tyr Ser Asp Phe Asn Asp Ile Asp His Arg Leu Lys Leu
 1010 1015 1020
 Tyr Phe Tyr Gln Arg Lys Phe Lys Glu Asp Gly Glu His Phe Lys Trp
 1025 1030 1035 1040
 Leu Ala Lys Gly Arg Ile Tyr Asn Glu Gln Thr Gln Ser Leu Gly Glu
 1045 1050 1055
 Gly Leu Val Val Met Ser Asn Cys Lys Cys Tyr Leu Met Glu Ala Phe
 1060 1065 1070
 Ala Glu Pro His Asp Asp Val Ala Lys Trp Leu Arg Gln Val Val Ser
 1075 1080 1085

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Cont*

Val Ala Val Asn Arg Leu Val Ala Ile Asp Leu Leu Pro Trp Lys Leu
1090 1095 1100

Gly Leu Ser Phe Thr Leu Lys Asp Trp Gly Gly Phe Val Leu Leu Leu
1105 1110 1115 1120

His Asp Met Leu Arg Thr Glu Ser Leu Leu Asn Tyr Leu Gln Gln Ile
1125 1130 1135

Pro Leu Pro Glu Gln Cys Lys Leu Asn His Gln Pro Ser Val Thr Leu
1140 1145 1150

Ser His Gln Trp Glu Thr Ile Ala Ser Glu Pro Val Lys Met Cys Ser
1155 1160 1165

Leu Ile Pro Ser Cys Gln Trp Ile Cys Asp Gln Glu Lys Ser Ser Phe
1170 1175 1180

Glu Pro Ser Leu Leu Ile Thr Glu Thr His Leu Tyr Ile Ser Gly
1185 1190 1195 1200

Asn Gly Lys Phe Ser Trp Leu Ser Asp Lys Val Gln Glu Lys Pro Ile
1205 1210 1215

Gln Pro Glu Leu Ser Leu Asn Gln Pro Leu Ser Asn Leu Val Asp Val
1220 1225 1230

Glu Arg Ile Thr Asp Gln Lys Tyr Ala Ile Asn Phe Ile Asp Glu Thr
1235 1240 1245

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cont

Gln Asn Arg Cys Glu Ile Trp Lys Leu Gln Phe Glu Thr His Ala Asn
1250 1255 1260

Ala Ala Cys Cys Leu Asn Val Ile Gly Lys Gly Trp Glu Gln Leu Phe
1265 1270 1275 1280

Gly Val Pro Phe Ser Leu Ser Gly Thr
1285